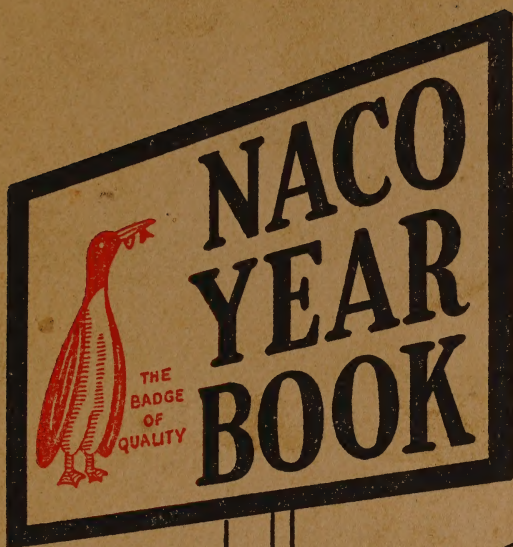




**A
GUIDE
FOR THE
CAROLINA
FARMER**

**SOUTH CAROLINA
1937**





Foreword

Much progress has been made during the last few years toward restoring farm income to a profitable level. Government plans for retirement of acreage from production have served to reduce the surplus of many crops, while the general upward trend of business is steadily increasing the consumption of all farm products. The proposed crop insurance plan promises much along the line of preventing severe losses such as those suffered in some sections through the unusual seasons last year, as well as stabilizing farm income from year to year. In general, the outlook seems very bright for the farmer.

Improvement of price levels and marketing conditions have played an important part. Of equal importance has been the new information developed and made available to the grower on every phase of crop production. The problems of the farmer have been the object of much intensive study and experiment by the State and Federal Departments of Agriculture, together with progressive fertilizer manufacturers and leading growers, and many outstanding findings of inestimable value to the grower have been the result.

In our NACO Year Book we endeavor to pass on to you the latest information we have been able to develop and gather from specialists in the agricultural field, which we believe you will find helpful and profitable. In formulating our Peruvian SEABIRD Brands we have given every consideration to the latest developments and recommendations in an effort to make them the biggest possible value to the grower.

NITRATE AGENCIES COMPANY

WILMINGTON, N. C.

CHARLESTON, S. C.

Contents

	<i>Page</i>
FOREWORD	3
KEEP PACE WITH PROGRESS.....	5
AN OLD STORY WITH NEW EMPHASIS.....	5
LISTEN TO YOUR SOILS.....	6
YOUR CROPS TALK, TOO.....	6
PUT YOUR PLANT FOOD WHERE THE ROOTS CAN FIND IT	8
JOIN THE ARMY AGAINST PLANT DISEASES.....	10
BE A BUSINESS MAN, TOO.....	11
TODAY'S FERTILIZER.....	13
GENERAL CROP FERTILIZATION.....	13
SHIPPING QUALITY IN TRUCK CROPS.....	14
CORN FOR HOME CONSUMPTION.....	16
KEEP PRODUCTION COSTS ON COTTON DOWN—AND PROFITS UP!.....	17
SMALL GRAINS NEED A COMPLETE RATION.....	19
PEANUTS ON SANDY OR SANDY-LOAM SOILS.....	20
THE BIG CHANGE IN BERRY FERTILIZATION.....	21
BRIGHT TOBACCO CULTURE.....	22
THE PLANT BED—YOUR STARTING POINT.....	23
WHAT THE STATE RECOMMENDS.....	24
FERTILIZATION IN THE FIELD.....	26
CAMEL BRAND TOBACCO SPECIALS.....	27
SPECIAL OPEN FORMULAS.....	28
A NEW FORMULA THAT SOLVES AN OLD PROBLEM.....	29
WHAT TO PUT UNDER WHAT YOU PLANT.....	30
DO IT THIS MONTH.....	33

Keep Pace With Progress



The wealth of information available to the grower today has made farming an entirely different occupation from what it was a few years ago. Through the intelligent use of our present knowledge, the progressive grower can remove many of the hazards, and insure for himself maximum returns from his year's work.

An Old Story With New Emphasis

Reduced acreage has brought to the front the necessity of making every acre do its best. With fewer acres the grower must be sure that not one of them "falls down on the job" if he is to realize a profitable return from his crop. Then, too, with farm labor at the highest wage level in years, high yields are essential for low production costs. Farm labor will be scarcer than in many years.

Limited production has emphasized the importance of producing *quality* crops. With the general raising of the average price level, the "spread" between the lower and higher grades has correspondingly increased. *Quality* has paid big dividends to the grower.

The production of *high yields per acre* and *quality crops* involve a great many factors. The first step is the selection of lands most favorable to the crop to be grown. Seed should be carefully chosen from good strains, resistant to disease, and adapted to your locality.

Fertilization is the most important factor. Your crop must have a sufficient supply of plant food — in the proper forms and in the correct balance to insure a full ration for the feeding roots to absorb if you are

to get maximum yields. Further, the fertilizer ration must contain an adequate supply of the minor elements required for full development of the plant.

Maximum Yields and Quality Crops are dependent on a full ration carefully balanced and containing the plant food elements which your crop and soil require.

Listen To Your Soils

 You can learn a good deal about your plant food requirements from your soils — through observation of their color and structure — through soil tests — through your experience of their reactions to various crops.

Soils which are sandy or grayish in color require more nitrogen. Heavy lands — soils high in clay or fine silt — need a higher ration of phosphoric acid. Soils strongly acid in reaction require lime and nitrogen. An alkaline reaction reveals the need of iron or manganese. This latter element is badly deficient in a great many soils in the truck areas of the Coastal Plains. Practically all our Carolina soils need more potash and magnesium.

An intelligent study of your soils will be of great value to you in selecting your plant food ration.

Your Crops Talk, Too!

 Your crops tell you much more clearly what their plant food needs are. For proper growth they require fourteen different elements, each with a particular function in the life of the plant, and when any one of them is lacking, or present in insufficient quantities, it quickly shows up in the plant's development.

Nitrogen gives plants their growth both above and below the ground. Its deficiency shows up in slow stunted growth and a yellowish cast to the leaves. The production of seed prematurely, and the yellowing of leaves from midrib out are other indications.

Phosphoric Acid governs the formation of fruit and seed and influences the time of maturity of the crop. Late maturity and low production of fruit and seed though the plant may appear normal and healthy in other respects thus indicates a deficiency of this element.

Potash goes into all the outer coverings of the plant, hardening them and acting as a protection against disease, as well as giving good shipping quality to the crop. Potash also aids in the formation of starches and sugar, filling out the bolls on cotton and the kernels on grain, and giving color and sweetness to fruit and berries. Because of its varied functions, Potash deficiency shows up in different ways. Susceptibility to disease in the plant and poor quality in the crop are general indications. In the growing plant the first evidence of potash deficiency appears in the yellowing of the tips of the leaves. This yellowing spreads down the edges of the leaf, finally working toward the center.

Magnesium is required in the production of chlorophyll, the substance which gives the green color to the leaves. Sand-drown in tobacco is a well known indication of magnesium deficiency. It is revealed by a pale, sickly, streaked appearance of the leaf on cotton, corn, truck and general crops.

Calcium is essential to the development of the leaf and stem structure. Plants show its deficiency by a peculiar hooking downward of the tips of the young

leaves, followed by a breaking down of these leaves at the tips and margins.

Manganese is required in small quantities for the proper growth of the plant. The lack of this element is shown by retarded development and a yellowing of the leaves following the application of lime, and in extreme cases by the dying of the plant when it is about half grown.

Sulphur is essential for the proper development of the leaf system. An adequate amount of this element is supplied, however, in the regular fertilizer application. In fact, a development of utmost importance to tobacco growers has been the recent discovery that too much Sulphur in the soil is responsible for dark color in the cured leaf.

Chlorine (or Salt) is another element, the quantity of which must be limited for tobacco, as well as for beans and peas and certain other crops. On such crops a small amount has a tonic effect, but too large doses are injurious. Too much chlorine makes tobacco brittle and difficult to handle when curing.

The other elements essential to plant growth are, for the most part, present in sufficient quantities in the soil. Several of them are gradually giving out, however, and before long will have to be supplied with the fertilizer application. Among these are Iron, Boron, Copper and Zinc.

Put Your Plant Food Where the Roots Can Find It



The position in which the fertilizer is placed with respect to the seed has a very important bearing on the yield. If the fertilizer is placed too close to the seed, germination may be affected or the young plants

injured: If it is too far away the feeding roots cannot absorb the plant food when it is needed.

On all crops which are grown in rows, placing the fertilizer in bands on each side of the row has been found to give very marked and profitable increases in yield, in many cases from 25% to even 50%.

Recent experiments on drilled corn showed an increase of 12.2 bushels per acre with this side placement. A three year test in North Carolina showed an average yield of 1,610 lbs. of seed cotton with this method as compared to 1,182 lbs. with under-the-seed placement. Experiments in the big potato-growing sections have shown an average increase of from 15 to 20 bushels per acre with side application. Peas and beans show a very marked response to this method.

On cotton the fertilizer should be placed in bands on each side of the row with one and a half to two inches of soil separating it from the seed. It should be from one to two inches below the seed level. On Potatoes the bands should be about two inches to each side of the seed and from two inches below the seed to seed level.

Beans and peas are very easily injured by contact with the fertilizer and there should be at least three inches of soil separating it from the seed. The bands should be two inches to each side of the seed and one and a half to two inches below seed level. In the case of hilled corn the fertilizer should be in bands 6 to 8 inches long on each side of the hill, with one-half to three-quarters of an inch of soil separating it from the seed. It should be from seed level to not more than one inch below. On tobacco the fertilizer should be

placed in two inch bands about two inches to each side of the plant at transplanting and slightly below the base of the root crown. This method has been found better than the practice of placing the fertilizer in a band under the plants and far superior to the common method of mixing with the soil in the furrow.

Placement of the fertilizer in side bands requires, of course that it be applied in one operation with the planting of the seed. This effects a considerable labor saving, a feature particularly valuable with labor at the high wage level now prevalent.

Most of the new planter-distributors are equipped for this side-placement of fertilizer, and attachments may be obtained for many of the older types to make it possible. The proper placement of fertilizer is so important that investment in new machinery and attachments will, in many cases, prove very profitable indeed. *It will pay you to look into this new method.*

Join the Army Against Plant Diseases



Plant diseases and insect pests take a tremendous toll from crops each year: It is important to use every method available to keep the loss from this source as low as possible.

Some of the "plant diseases" of a few years ago have resolved themselves in the light of our new knowledge into deficiencies in plant food elements which can be remedied by applying the proper fertilizer ration. Examples of these are "rust" on cotton and "sand-drown" in tobacco.

Unfortunately a great many more require constant fighting, while the control of still others is yet a com-

plete mystery and only general precautions can be used in combating them.

The control of boll weevil lies in pushing the plants all possible through proper fertilization, watching the squares carefully, and when one in ten is punctured, dusting with calcium arsenate.

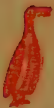
Mosaic in tobacco is best controlled by destroying all weeds in and around plant beds: Using no tobacco waste in the fertilizer: Avoiding the use of tobacco in any form when working the crop: Destroying infected plants as soon as the disease appears.

Root Knot on Tobacco, potatoes and many other crops may be partially controlled by three to five year rotation with peanuts, velvet beans, Iron cowpeas, wheat, oats and other crops which are highly resistant to the disease.

Granville Wilt on Tobacco is best controlled by four to five year rotation with corn, wheat, rye, soybeans and melons, and by the use of every precaution to prevent the movement of even minute quantities of soil from infested to non-infested fields.

These are only a few of the general methods developed for the combating of plant diseases. The State and Federal Departments of Agriculture are constantly searching for new and more effective means of reducing the losses sustained from this source.

Be A Business Man, Too

 The success of all business enterprises depends to a large extent on their keeping in constant touch with, and putting into practice, all the progressive developments in the industry in which they are

concerned. Many large corporations maintain research laboratories devoted entirely to the improvement of their products and manufacturing methods.

The business of farming is no different from any other industry in this respect. Successful farming calls for the same study and planning and improvement of methods: The "research laboratory" is maintained in the form of the State and Federal Departments of Agriculture, and the experimental work of the fertilizer industry in conjunction with leading growers in every section. These agencies are constantly engaged in developing new information and new methods which will place the business of farming on a surer and more profitable basis.

The value of keeping accurate records is another factor which cannot be overlooked. As in the business world, past experience is a big help in determining future policy. It is important for you to know what it costs you to produce a crop — what your returns from it are — how changes you may make in your fertilizer ration affect your profit from your year's work. A simple record is not hard to keep — but it can be worth a great deal to you.

Do your farming on a business basis. Plan for your year's work — Use your Department of Agriculture — Put into practice the new methods which have proven so profitable — Keep some kind of a record book — Choose your guano carefully—Keep Pace with Progress.

Today's Fertilizer

 The new developments and discoveries described on these pages have necessarily made a big change in the methods of formulation of commercial fertilizers. The progressive manufacturer today must do a great deal more than just provide a mixture of materials that will contain the required amount of Nitrogen, Phosphoric Acid and Potash.

A good fertilizer must be formulated to contain a sufficient ration of the minor elements that have become generally deficient: Some other elements must be limited in amounts for certain crops on which overdoses have proven harmful: The affect of different ingredients on the soil — whether they tend to make it acid or basic — must be taken into consideration: The materials must be chosen for their adaptibility to the particular crop: The proper balance must be maintained between the slow- and quick-acting forms.

All these things and many more make the formulation of a good, complete fertilizer today, a much more complicated affair than ever before.

In offering our Peruvian SEABIRD Formulas we try to give you a complete, balanced ration for each crop, made to do a good job and make you want to use it year after year.

General Crop Fertilization

 Dependence on one crop for the entire income of the farm has become almost a thing of the past. Diversification of crops and the production of food and feed at home are playing an important part in bringing back better times to the Carolina farmer.

The value of fertilization on the two principal money crops is well known to every grower, but other crops have in too many instances been made to "shift for themselves" on what plant food there might be in the soil on which they were grown. This has resulted in depletion of the soil and low, unprofitable yields.

Fertilization is just as important in the production of these other crops as in the two principal crops.

PERUVIAN SEABIRD CROP GROWERS provide a well balanced ration for general crops. They are made from selected materials of the finest quality in a variety of analyses to meet the needs of the various crops on our Carolina soils.

SEABIRD CROP GROWERS have proven their quality in the results in the field wherever they have been used, and results are what count!



Shipping Quality in Truck Crops

 A profitable return from truck crops is dependent on their reaching the market at just the right time, and in fine, fresh condition. Early maturity and shipping quality are of prime importance.

Truck crops thus need a liberal supply of plant food with a heavy ration of nitrogen, the growth element. A liberal potash ration is necessary to harden the quick growth, and give the good shipping and keeping quality essential to profitable returns.

While all truck crops require a certain amount of Magnesium, for crops like spinach and cucumbers on which a rich green color is essential for a good price, this element is particularly important. Tomatoes also

require a high ration of Magnesium.



Phosphoric Acid being the maturity element, the proper ration is determined by the type of crop to be grown. For leafy vegetables and root crops a lower ration is required than that for crops on which the fruit is marketed.

In a great many of the truck areas of the coastal plain a decided deficiency in Manganese has developed, making it necessary to supplement the fertilizer ration with a small amount of this element. Beans, peas and some other truck crops are particularly sensitive to Chlorine or Salt, making it necessary to limit the ration of this element.

Due to the fact that they are such "heavy feeders" of nitrogen and the importance of healthy, vigorous plants at marketing time, truck crops require a higher proportion of the organic forms in their nitrogen ration than do general field crops. The long time during which the plant occupies the ground makes a high organic content particularly important on asparagus.

All these factors must be considered in your selection of the proper guano for your truck crops. They mean dollars and cents to you.

SEABIRD TRUCK GROWERS, in the analyses 7-5-5, 7-5-7 and 7-8-5 provide a full, balanced ration for truck crops. They are blended from fine materials adapted to give the quick healthy growth required. A very high grade of potash is used to limit the salt, or chlorine content — they contain a full ration



of pure soluble magnesia to counteract the magnesium deficiency existing throughout the truck area and supply the plant its full requirement of this element — Their high content of organic materials insures a full nitrogen ration through to marketing time. They represent an exceptional value for the truck grower. Where a manganese deficiency exists, this element may be added to the formula for a small additional cost.

Tomatoes require a higher ration of phosphoric acid and are particularly responsive to magnesium. SEA-BIRD TOMATO SPECIALS 8-4-6 and 10-4-8 are especially designed to meet the requirements of this crop.

Corn for Home Consumption



Most of the corn in the Carolinas is grown for home consumption. Because the return is not realized directly in dollars and cents, too many growers have overlooked the importance of proper fertilization of the corn crop. This is reflected in the fact that the average yield in the Carolinas is less than 20



bushels per acre. Low yields mean high production costs: Hence, if the corn is used for feeding stock, the feed bill is really higher: If it is used for fattening hogs for market, there's less profit from the sale of the hogs. So for whatever purpose the corn is to be grown, it is important to secure high yields per acre.

High yields can be secured only through proper fertilization with a balanced ration. Corn should receive a ration of 400 pounds of 8-4-4, or on the stiffer lands, 10-4-4, at planting time, followed by a side dress-

ing of 100 lbs. of Nitrate of Soda when the crop is knee to waist high. Additional potash in the mixture — an 8-4-6 or 10-4-6 — will prove profitable as Potash goes into the production of starches and sugars, filling out the kernels, as well as making the corn more resistant to weevil in the crib.

SEABIRD CROP GROWERS are made from fine materials with the proper balance of quick- and slow-acting plant foods to give your crop a good start and bring it to full maturity. Use a SEABIRD formula and make your corn crop profitable!



Keep Production Costs on Cotton Down--and Profits Up

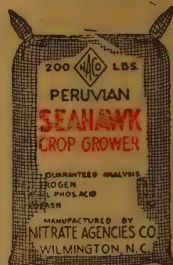
 Because Cotton is the main source of income in a great many sections of the Carolinas, a great deal of study has been given every phase of the production of this crop. New and improved varieties have been developed to produce the staple lengths most in demand by our best markets, the Carolina mills (which consume considerably more cotton than is produced in the two states): Strains have been tested for their adaptability to the local climate and their resistance to disease: The fertilization of cotton has been the subject of thousands of experiments by Departments of Agriculture and experts in the Agricultural field.



Practical results in the field for many years have shown the importance of keeping production costs down by securing high yields per acre. It takes the same labor to prepare the land, plant and cultivate an acre producing a low yield as for one producing a

high yield, and the profit per pound of lint cotton is increased in proportion to the increase in yield. High yields can be secured only through proper fertilization.

Cotton requires a complete ration. For a number of years an 8-4-4 has been recommended for light lands and 10-4-4 for the stiffer lands. From 600 to 800 pounds should be applied at planting time, followed by a side dressing of 100 to 200 pounds of Nitrate of Soda after chopping, when the plant has put out a few good-sized leaves.



In recent years many growers have experienced difficulty in getting all the bolls to fill out and the late bolls to open. Cotton rust has also given growers a great deal of trouble. Both these difficulties have been found to be due to the lack of sufficient Potash, and an increase to 6% in the Potash ration has been found most profitable, so that today's recommendation is an 8-4-6 for the light lands and a 10-4-6 for stiff lands.

Another recent development has been the increase in magnesium deficiency in the soils of the cotton belt. Some Magnesium should be included in the fertilizer ration for average soils, and an additional amount should be used where a decided deficiency exists.

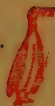
Our SEABIRD CROP GROWERS — the HERON 4-8-4 and the SEAHAWK 4-10-4 — are blended from the finest materials, with sufficient Nitrate of Soda and other quick acting forms of Nitrogen to get the plant off to a good start, and enough of the organic forms to keep the growth healthy and vigorous to maturity. They contain a sufficient ration of Magnesium for average soils.

We particularly recommend our SEABIRD COTTON SPECIALS — the BIG BIRD 10-4-6 and the WHITE SWAN 8-4-6. These formulas are made with a higher content of organics and with an added amount of pure, soluble magnesia. The particular grower will find in them the ideal ration for cotton.

Select the SEABIRD formula suited to your soil and produce the maximum yields which will mean more profits from your crop.



Small Grains Need a Complete Ration



In the past the practice of fertilizing small grain with a little superphosphate only has been too general. The results when a complete ration is supplied have been found much more profitable. Winter-killing is reduced materially and the yield and quality of grain are much higher when a complete fertilizer is used.

A liberal supply of phosphoric acid is required to set the grain and bring it to maturity. Nitrogen strengthens the stem and makes for a larger plant capable of setting more grain. Potash goes into all the outer coverings making the plant more resistant to disease and fills out the kernels and gives them keeping quality.



The recommended ration is from 8% to 12% Phosphoric Acid, 3% to 4% Ammonia and 3% to 6% Potash, depending on the soil. The higher potash ration has been found most profitable. From 200 to 400 lbs. should be applied at planting time, followed on winter

grain by a top dressing of Nitrate of Soda in the early spring when required.

Applying the fertilizer in the drill at planting time with the regular fertilizer grain drill has been found to increase the yield very materially over that obtained from broadcast application.

SEABIRD CROP GROWERS will provide you with a balanced ration for grain that will produce results.

Peanuts on Sandy or Sandy-Loam Soils



Peanuts have become an important cash crop in the Carolinas. With the proper fertilizer, from 40 to 60 bushels of good quality nuts and a ton of excellent hay can be produced per acre, and with the higher price level now prevailing, this will mean a real profit to the grower.

Sandy or sandy-loam soils are best fitted for the production of this crop. They should be fertilized with a mixture containing 2% to 3% ammonia to develop a sturdy vine, 8% to 10% phosphoric acid to insure setting of the fruit, and from 4% to 6% potash to fill out the nuts and give them keeping quality.

From 200 to 400 pounds of fertilizer should be applied before planting, followed by 300 pounds of land plaster dusted on the plants in the blooming stage.

SEABIRD CROP GROWERS in the analyses

8-3-5

10-3-5

10-3-6

will be your best assurance of a good crop of peanuts of fine quality, which will bring you a profit.



The Big Change in Berry Fertilization



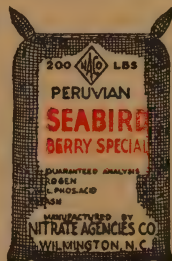
Up until a few years ago it was the common practice to fertilize berries with a mixture containing three per cent ammonia. It was believed that a higher ration would produce vines at the expense of fruit. Experiments by the State Department of Agriculture and practical results by leading growers over a three year period, have definitely shown that the more leaves and runners the plant puts out, the more fruit it will produce, and a high nitrogen ration is therefore necessary for the most profitable results.



The formula recommended is an 8-5-6, supplied in two applications of 750 pounds each: One in the fall to build up the plant and root system, and the other in the early spring to keep the plants healthy, and set the crop of berries. Many growers have found a high organic content for the fall application more profitable, since the plant food must be taken up by the roots over a long period. The spring application should be in a more quick-acting form.

SEABIRD Berry Growers are well balanced formulas for the spring application. They are made from materials particularly adapted to berries, in all the popular analyses. They're really built to do a good job.

SEABIRD Berry Specials are the formulas for the fall application, made with a high organic content and with the Potash one-half Sulphate.



Bright Tobacco Culture



In no other crop is quality more important than in tobacco. In no other crop is the "spread" between the lower and higher grades as great: The production of quality pays big dividends.

Tobacco is more particular about its plant food than any other crop. Because of the importance of even texture in the leaf, the plant food must be taken up in small broken doses extending over the entire growing period of sixty to seventy days. There must be an ample supply of Magnesium and Calcium to give good color to the leaf. The Potash ration must be high to keep the plant healthy and give good texture and burning quality to the cured leaf. Though a small amount of Chlorine has a tonic effect, giving added weight, large quantities are very injurious to tobacco. It has recently been discovered that too much Sulphur in the soil is responsible in many cases for the difficulty many growers have experienced in curing tobacco to the bright yellow color that is most desirable and profitable. (See page 29).



Thus careful selection of the guano for your tobacco is of vital importance.

We are constantly studying the requirements of tobacco on Carolina soils and in formulating our SEABIRD TOBACCO GROWERS and TOBACCO SPECIALS every improvement to increase their quality-producing value is employed. The SEABIRD line offers you a wide variety of formulas from which to choose the fertilizer for your tobacco. You'll find them an invaluable aid to better quality and more profits.

The Plant Bed--Your Starting Point



The first step in the profitable production of tobacco is the securing of strong, healthy plants for transplanting. Indeed, the prevalence of "blue-mold" has made the culture and fertilization of plant beds of prime importance.

State Recommendations for Plant Bed Culture

Locate beds on new sites and at some distance from old beds. Select a warm sunny place where the bed will not be shaded during any part of the day. Destroy any hold-over plants before seedlings appear.

Sow more beds than required to set the crop — several beds in different locations. Sow beds early. A moderate stand of plants is preferable to a thick stand. Work beds only when plants are dry, preferably in the afternoon. Keep hands and clothes clear of spores from infested beds.

Remove covers during the day as soon as weather permits. If necessary to increase rate of growth of diseased plants, add Nitrate of Soda in solution. If possible transplant in advance of attack. Do not set diseased plants. At the present time spraying is not recommended.

Fertilizer for Plant Beds

The young plants are even more particular about their plant food than tobacco in the field, and are especially sensitive to chlorine. A high nitrogen ration should be supplied to push their growth all possible.

RED BIRD PLANT BED GUANO 8-5-3 is especially formulated for seed beds from materials particularly adapted to the young plants. The full nitrogen ration with a goodly content of Nitrate of Soda will

hurry the plants to transplanting size. The potash is derived entirely from sulphate to prevent chlorine damage to the tender plants.

You will find RED BIRD the ideal formula to get your tobacco plants off to the good start essential to a profitable crop.



What the State Recommends

 The State Tobacco Division has given the culture and fertilization of tobacco a great deal of study, and their recommendations as outlined below represent the result of thousands of experiments on various types of soil.

Analyses and Rates of Application

For Heavy or More Productive Soils — 10-3-6 applied at the rate of 700 to 800 pounds per acre.

For Light or Less Productive Soils — 8-3-6 applied at the rate of 800 to 1,000 pounds per acre.

Note 1—Where high topping is practiced and heavy yields expected, the potash content may be increased to 8 or 10%.

Note 2—The analyses may be modified provided the given rations are maintained.

Note 3—The fertilizer should be applied in bands at sides of rows or mixed thoroughly with the soil in the row before ridging.

Sources of Plant Food

Nitrogen — At least one-third from high grade organic materials of vegetable or animal origin, one-fourth to one-third from Nitrate of Soda or Potash Nitrate, and not over one-third from Urea and/or standard inorganic sources.

Potash — From any source of available potash, provided the chlorine content of the mixed fertilizer does not exceed two per cent.

Magnesia—Two per cent, half in water soluble form.

Calcium—Six per cent minimum in available form.

Sulphur—Soluble content to be kept to minimum.

Neutral Fertilizers

Tobacco fertilizers should be made non-acid-forming, and Dolomitic Limestone is recommended as the neutralizing ingredient.

P. & M. Tobacco Mixtures

These formulas are made in accordance with the recommendations of the State Tobacco Division, as outlined above, and practical results in the field for years have proven them to be a fine, balanced ration for tobacco. They are made on the open-formula plan—a tag on every bag showing the number of pounds of each ingredient in the formula:

P & M 8-3-6

215 lbs. Cotton Seed Meal
75 lbs. Fish Meal
75 lbs. Bird Guano
85 lbs. Nitrate of Soda
30 lbs. Urea
1,000 lbs. Superphosphate
80 lbs. Muriate of Potash
80 lbs. Sulphate of Potash
150 lbs. Sul. Potash-Magnesia
210 lbs. Magnesium Lime
2,000 lbs.

P & M 10-3-6

215 lbs. Cotton Seed Meal
75 lbs. Fish Meal
75 lbs. Bird Guano
85 lbs Nitrate of Soda
30 lbs. Urea
1,000 lbs. Superphosphate 20%
80 lbs. Muriate of Potash
80 lbs. Sulphate of Potash
150 lbs. Sul. Potash-Magnesia
210 lbs. Magnesium Lime
2,000 lbs.

These formulas are also made on the same basis in the 10-2-6 recommended for use on lands on which legumes have been grown, and in the high-potash formulas recommended where high topping is practiced.

The large yields and fine quality leaf produced with P. & M. TOBACCO MIXTURES have won many friends for them throughout the Carolinas.



Fertilization in the Field

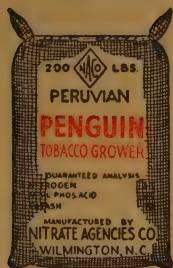
 Our Regular SEABIRD TOBACCO GROWERS are well-balanced formulas for the profitable and economical production of Tobacco. They are made from a select number of fine quality materials blended to give the even, steady feeding required by this crop.

They are formulated with a good percentage of Nitrate of Soda to give the plants a good start, sufficient of the slower acting forms of nitrogen to keep the supply steady until maturity, a maximum of two per cent chlorine, and with magnesium lime as the neutralizing agent, supplying magnesium to keep down the danger of sand-drown.

They are made in a variety of analyses to suit the various soil conditions of the Carolinas:

8-3-3	8-4-6	10-3-5
8-3-5	9-3-6	10-4-6
8-3-8	10-2-6	12-3-5

SEABIRD TOBACCO GROWERS have given excellent results year after year in every tobacco growing section of the Carolinas. Growers who have ever



used them always want a SEABIRD formula for their tobacco again.

SEABIRD TOBACCO GROWERS are low in price but high in quality. They will help you to produce good yields of fine quality leaf which will mean a profit from your crop.

Camel Brand Tobacco Specials



Our CAMEL BRANDS were originally designed for the stiff red soils of the Piedmont section of North Carolina, but the excellent results from their use have won for them a wide popularity throughout the Carolinas.

These formulas are made with a little higher organic content than our regular tobacco grades. The organic nitrogen is derived from Bird Guano, Fish Meal and Blood. For growers who prefer Cotton Seed Meal in their fertilizer a percentage of this ingredient will be added without extra cost.

One-fourth of the nitrogen is derived from Nitrate of Soda and the Potash is a combination of Muriate, Sulphate and Sulphate of Potash-Magnesia, formulated to contain less than two per cent of Chlorine.

CAMEL BRAND TOBACCO SPECIALS have proven their worth in the field. Well-balanced, made from quality materials, and reasonably priced, they offer you exceptional value for your dollar.

CAMEL BRANDS are made in the



same variety of analyses for different soil types as are listed under the regular Tobacco Growers.

You will find in them just the formula for your soil: You will find, too that they will produce a fine crop of tobacco for you.

Special Open Formulas

 The two formulas shown below are the result of years of study in an effort to produce the ideal ration for tobacco. They were developed with the aid of some of the best growers in the Carolinas and have given outstanding results in high yields and finest quality leaf in every section.

IDEAL TOBACCO GROWER is made for light soils; G.I.S. TOBACCO GROWER for the stiffer lands.

IDEAL 8-3 ½-5

G. I. S. 10-3 ½-5

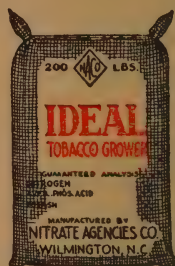
200 lbs. Cotton Seed Meal
100 lbs. Bird Guano
100 lbs. Fish Meal
100 lbs. Dried Blood
100 lbs. Nitrate of Soda
930 lbs. Superphosphate
120 lbs. Sulphate of Potash
150 lbs. Sul. Potash-Magnesia
200 lbs. Magnesium Lime

2,000 lbs.

200 lbs. Cotton Seed Meal
100 lbs. Bird Guano
100 lbs. Fish Meal
100 lbs. Dried Blood
100 lbs. Nitrate of Soda
1,000 lbs. Superphosphate 20%
120 lbs. Sulphate of Potash
150 lbs. Sul. Potash-Magnesia
130 lbs. Magnesium Lime

2,000 lbs.

This combination of the five finest sources of Nitrogen for tobacco with potash in its most valuable form, insures an even, steady supply of plant food and an unsurpassed quality of leaf. For many years they have satisfied the most discriminating growers.



These Special Tobacco Formulas, made for the particular grower and representing the utmost in quality, bring increased returns far in excess of their small cost.

A New Formula that Solves an Old Problem



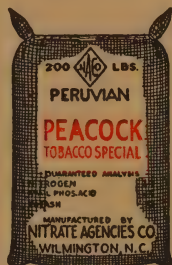
A great many growers have experienced difficulty in curing tobacco to the bright color which brings the best prices on the market. It was found three years ago that the reddish color and hard-to-cure leaf was due in the majority of cases to the presence of too much Sulphur in the soil.

In conjunction with the State Tobacco Division we developed a new formula with a very low Sulphur content, made from some new materials — our PEACOCK TOBACCO SPECIAL, a 9-3-6.* It was designed particularly for soils containing too much Sulphur and not only solved the problem, but



gave such outstanding results that last year many leading growers used it on various other types of soil. In every case the results were the same — exceptional yields and finest quality of leaf.

If you have had difficulty in curing your tobacco to a bright color, use the PEACOCK Formula. If you grow tobacco at all, try a few bags and watch the results. It's new and radically different, but, we believe, a real step forward in the culture of Bright Tobacco.



*This formula is also made in the PHEASANT 10-4-8 for the stiffer soils.

What to Put Under What You Plant

COASTAL PLAIN

Well Drained Sandy Loams

- COTTON—600 to 800 lbs. 8-4-4 or 8-4-6—130 lbs. Nitrate of Soda as side dressing.
- CORN—400 lbs. 8-4-4 or 8-4-6—130 lbs. Soda as side dressing.
- PEANUTS—200 to 400 lbs. 8-3-5—300 lbs. land plaster at blooming time if soil reaction is over 6.5 pH.
- TOBACCO—800 to 1,000 lbs. 8-3-6—two thirds at transplanting and the balance at first or second cultivation. When following legumes use 10-2-6.
- VEGETABLES—1,000 to 2,000 lbs. 7-5-5 or 7-5-7. The larger application should be partly broadcast.
- SWEET POTATOES—EARLY—1,000 to 1,200 lbs. 8-3-8—for Late harvest, 600 to 800 lbs. 8-3-8.
- IRISH POTATOES—EARLY—2,000 lbs. 7-5-5 or 7-5-7—200 lbs. Soda as side dressing.
- SMALL GRAINS—400 lbs. 8-4-4 or 8-4-6—130 lbs. Soda as side dressing.
- STRAWBERRIES—1,500 lbs. 8-5-6— $\frac{1}{2}$ in spring and $\frac{1}{2}$ in fall.
- GRASSES—400 lbs. 8-4-4.
- MELONS—400 to 600 lbs. 10-4-6 (Tobacco formula).

Fairly Well Drained Sandy to Silt Loams

- COTTON—600 to 800 lbs. 8-4-4 or 8-4-6.
- CORN AND SMALL GRAINS—400 lbs. 8-4-4 or 8-4-6—100 lbs. Soda as side dressing.
- TOBACCO—800 to 1,000 lbs. 8-3-6. Use 10-2-6 after legumes.
- IRISH POTATOES—2,000 lbs. 7-5-5 or 7-5-7.
- MELONS—400 to 600 lbs. 10-4-6 (Tobacco formula).
- PEANUTS, VEGETABLES, GRASSES, STRAWBERRIES, AND SWEET POTATOES—Same as on Well Drained Sandy Loams.

Poorly Drained Sandy Loams

- COTTON—600 lbs. 10-4-4 or 10-4-6.
- CORN AND SMALL GRAINS—400 lbs. 8-4-4 or 10-4-6.
- PEANUTS—200 to 400 lbs. 10-0-4—300 lbs. land plaster where soil reaction is more than 6.5 pH.

IRISH POTATOES—2,000 lbs. 7-5-5 or 7-5-7.

VEGETABLES AND STRAWBERRIES—Same as on Well Drained Sandy Loams.

Poorly Drained Loams and Silt Loams to Clays

VEGETABLES—1,000 to 2,000 lbs. 7-5-5.

CORN AND SMALL GRAINS—300 lbs. 8-4-4.

IRISH POTATOES—1,600 lbs. 7-5-5.

GRASSES—200 to 300 lbs. 8-4-4.

Well Drained Sands

COTTON—600 to 800 lbs. 8-4-4 or 8-4-6—150 lbs. Soda as side dressing.

CORN—400 lbs. 8-4-4 or 8-4-6—150 lbs. Soda as side dressing.

TOBACCO—800 to 1,000 lbs. 8-3-6—two thirds at transplanting, the balance at first or second cultivation.

IRISH POTATOES—2,000 lbs. 7-5-5—200 lbs. Soda. 1,200 lbs. 7-5-5 before planting, the balance with the Soda after potatoes are up.

SWEET POTATOES—EARLY—1,000 to 1,200 lbs. 8-3-8—one-half before transplanting, the balance after plants are rooted.

VEGETABLES AND MELONS—Same as on Well Drained Sandy Loams.

Poorly Drained Sands

IRISH POTATOES—2,000 lbs. 7-5-5—one half before planting, the balance after potatoes are up.

VEGETABLES, CORN AND SMALL GRAINS—Same as on Well Drained Sandy Loams.

Organic Soils (Use of Lime Necessary)

POTATOES AND VEGETABLES—1,000 to 1,600 lbs. 7-5-7.

CORN AND SMALL GRAINS—300 lbs. 8-3-8.

GRASSES—300 to 400 lbs. 8-3-8.

PIEDMONT SOILS

Sandy Loams with Red Clay Subsoils

COTTON—600 lbs. 10-4-4 or 10-4-6—130 lbs. Nitrate of Soda as side dressing.

CORN—400 lbs. 10-4-4 or 10-4-6—130 lbs. Soda as side dressing.

IRISH POTATOES—1,000 to 1,200 lbs. 7-5-5 or 7-5-7.

SWEET POTATOES—600 to 800 lbs. 8-3-8.

VEGETABLES—1,200 to 1,400 lbs. 7-5-5 or 7-5-7.

MELONS—400 to 600 lbs. 10-4-6 (Tobacco formula).

GRASSES—300 to 400 lbs. 10-4-4.

SMALL GRAINS—200 to 400 lbs. 10-4-4 or 10-4-6—130 lbs. Soda as side dressing.

Loams and Silt Loams with Red Clay Subsoils

COTTON—600 lbs. 10-4-4 or 10-4-6—100 lbs. Soda as side dressing.

CORN—300 to 400 lbs. 10-4-4 or 10-4-6—100 lbs. Soda as side dressing.

SMALL GRAINS—200 to 400 lbs. 10-4-4 or 10-4-6—100 lbs. Soda as side dressing.

GRASSES—200 to 400 lbs. 10-4-4 or 10-4-6.

Sandy Loams with Yellow or Reddish Yellow Subsoils

COTTON—600 to 800 lbs. 10-4-4 or 10-4-6—130 lbs. Soda as side dressing.

CORN—400 lbs. 10-4-4 or 10-4-6—130 lbs. Soda as side dressing.

SMALL GRAINS—200 to 400 lbs. 10-4-4 or 10-4-6—130 lbs. Soda as top dressing.

GRASSES—200 to 400 lbs. 10-4-4 or 10-4-6—130 lbs. Soda as top dressing.

SWEET POTATOES—600 to 800 lbs. 8-3-8.

IRISH POTATOES—600 to 800 lbs. 8-4-6.

VEGETABLES—1,000 to 1,200 lbs. 8-5-6.

MELONS—400 to 600 lbs. 8-4-6 (Tobacco formula).

Loams and Silt Loams with Yellow to Reddish Yellow Subsoils

VEGETABLES—800 to 1,000 lbs. 8-5-6.

MELONS—400 to 600 lbs. 10-4-6 (Tobacco formula).

COTTON, CORN, SMALL GRAINS AND GRASSES—Same as on Loams and Silt Loams with Red Clay Subsoils.

Poorly Drained Silt Loams

SMALL GRAINS—200 to 400 lbs. 10-4-4 or 10-4-6.

GRASSES—200 to 400 lbs. 10-4-4 or 10-4-6.

CORN—200 to 400 lbs. 10-4-4 or 10-4-6.

Blackjack Soils

SWEET POTATOES—600 to 800 lbs. 8-3-8.

IRISH POTATOES—600 to 800 lbs. 8-4-6.

SMALL GRAINS—200 to 400 lbs. 8-4-6.

VEGETABLES—800 to 1,000 lbs. 8-5-6.

CORN—300 to 400 lbs. 8-4-6.

COTTON—600 lbs. 8-4-6.



Do It This Month

JANUARY

Take a farm inventory and an inventory of jobs that need to be done in spare time—repairs to buildings, machinery, etc. Plan for the year: Provide enough acreage of food and feed crops to take care of the family and livestock for the year; select the lands best suited for each money crop to be planted. Plow on good days when land is dry enough.

FEBRUARY

Spray fruit trees. Keep stock dry and well-bedded. If not sure of having plenty of grain and hay put in some Spring oats. Keep hogs well-fed for spring market. Top-dress spring grain if needed, especially oats. Start the home garden. Plant broccoli. Plow every suitable day.

MARCH

Plant early varieties of corn. Begin soil preparation ten days or two weeks before planting—loose friable soils even earlier. Get certified seed: If you have your own seed get enough certified and for an acre or two to be planted far enough from fields of the same crop to provide for next year's seed. Again, plow every suitable day.

APRIL

Plant corn and cotton. Transplant tomatoes, sweet potatoes, peppers and tobacco. Most important not to plow when land is too wet this time of year, as seed bed must be free of clods. When rain falls soon after planting before plants are up, a crust usually forms, slowing up germination. Break by running peg tooth harrow or weeder across rows.

MAY

Put in hay crops to avoid pulling fodder, as stripping leaves from corn reduces yield. Cultivate enough to keep down weeds and grass. Top-dress corn when knee to waist high. First chopping of cotton when thinning is done is most important: Use dependable labor and supervise carefully.

JUNE

Where rust is bad on cotton apply 200 lbs. Kainit. Keep up cultivation to kill grass and weeds. Do not cultivate deep enough to disturb feeding roots. Plant Sudan grass or millet for August grazing. Be sure to provide shade for animals for hot weather.

JULY

For disease free sweet potatoes for next spring's beds select vine cuttings showing no disease and plant on land having no potatoes for five years. Watch for boll weevils. Examine squares and if one in ten is punctured get busy with poison. Keep down weeds by shallow cultivation of fields, moving of roadsides, pastures and waste places. Seed planted at this time should be twice as deep as in the spring.

AUGUST

Get tobacco in just right moisture condition before removing from curing barns. Handle first two primings carefully. If possible put first curings on second floor of dry building. In wet season heat pack houses enough to dry out atmosphere to keep tobacco from molding. Plow under stalks as soon as harvested to keep down disease.

SEPTEMBER

Sow rye for early pastures. Sow winter oats—they are usually more profitable than spring sown oats. Gather hay whenever possible. Pick cotton as early as possible. Cut corn for silos about two weeks before it is ready to cut for grain to get most food value.

OCTOBER

Seed fall grain. Select corn for seed from field if possible: 20 ears for each acre. Well shaped, matured ears slightly drooping, from good stalks. Feed hogs being finished for slaughter tankage or fish meal in addition to grain. Pick cotton as early as possible and destroy stalks immediately to help keep down weevil. As soon as harvest is over plow under remains of garden and truck crops.

NOVEMBER

Shuck corn and shock stalks at once. Place seed corn where dry and where rats and mice cannot get. Before placing corn in bins be sure to remove all old corn, sweep up shattered grain and clean floor. See that all chimneys and flues are safe before starting winter fires. Be sure that drain furrows in grain fields are working properly as places which have to be drained are usually the most productive parts of field. Keep cotton under cover until sold.

DECEMBER

Start plowing whenever weather permits. Cut firewood for the entire winter. Turn under rather than burn off weeds and grass. Put barnyard manure on bald spots in field. Start planning for next year's crops.

Peruvian SEABIRD Fertilizers

are
Non - Acid - Forming
They will make your
land do its best
in
1937

Look for the
Big Red Bird



On Every Bag

Peruvian SEABIRD Fertilizers

are
Always Dependable
They will help you
to make a profit
in
1937

JANUARY

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

FEBRUARY

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

MARCH

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

JUNE

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

JULY

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

SEPTEMBER

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

OCTOBER

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

NOVEMBER

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

DECEMBER

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

PERUVIAN SEABIRD FERTILIZERS

BUILD YOUR YEAR'S PROFITS



ON A SURE FOUNDATION

© N. A. CO., 1935

Peruvian SEABIRD Fertilizers

MANUFACTURED BY

NITRATE  AGENCIES
COMPANY

WILMINGTON, N. C.

CHARLESTON, S. C.

FOR SALE BY

A. W. Love & Son
Kings Creek, S. C.

PERUVIAN SEABIRD FERTILIZERS